

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A system that determines the presence of an audio speaker connected to an audio generating component that can receive radio signals in a vehicle, the apparatus comprising:

a computer having a memory and a microprocessor;

a display connected to the computer;

a signal processor that outputs a frequency sweep in response to a request from the computer;

a radio frequency generator that is controlled by the computer, whereby said radio frequency generator receives operating instructions from the computer and receives the frequency sweep from the signal processor and outputs ~~a radio~~ an audio broadcast signal;

at least two audio speakers; and

a cable that receives the audio broadcast signal at a receive end and carries the audio broadcast signal to an output end, said output end removably connected to the audio generating component, whereby the audio generating component receives the audio broadcast signal from the output end of the cable and outputs the received signal to the at least two audio speaker-speakers and wherein each of the at least two audio speaker-speakers outputs the received signal and collectively emits at least two concurrent audio signals, respectively; ~~an audio signal;~~

a microphone placed in the vehicle and connected to the signal processor that detects the emitted audio ~~signals~~ signals, said signal processor processes the audio, broadcast signal and the emitted audio ~~signal-signals~~ and outputs a waveform to the computer; and

a program stored in the memory that analyzes the waveform from the signal processor and determines the presence of a speaker according to predetermined rules.

2. (Cancelled)

3. (Currently Amended) A The system of claim 1, wherein the signal processor is a digital signal processor.

4. (Currently Amended) A The system of claim 1, wherein the cable output end is removably connected to a transmitting antenna and the ~~radio~~audio broadcast signal is received at the transmitting antenna, and a receive antenna receives the ~~radio~~audio broadcast signal from the ~~5~~-transmitting antenna, the receive antenna coupled to the audio generating component.

5. (Currently Amended) A The system of claim 1, wherein the audio generating component is one of an AM radio, an FM radio, and AM/FM radio, a satellite radio receiver, a compact disc player, a cassette tape player, a digital audio tape player, a cellular telephone transceiver, a compact disc player/recorder, a cassette tape player/recorder, a digital audio tape player/recorder, a television, a video cassette player, a ham radio receiver or transceiver, and a digital video disc player.

6. (Currently Amended) A The system of claim 1, wherein the signal is modulated.

7. (Currently Amended) A The system of claim 2 1, wherein the program can detect the presence of more than one speaker.

8. (Currently Amended) A The system of claim 1, wherein the program can determine proper speaker operation.

9. (Currently Amended) A method for determining the presence of an audio speaker in a vehicle having an audio speaker connected to an audio generating component that can receive radio signals, the method comprising the steps of:

placing a microphone in the vehicle;

transmitting a computer-controlled radio signal to the vehicle;

receiving the radio signal at the audio generating component;
converting the radio signal to an audio signal;
outputting the audio signal to at least two speakers;
outputting the audio signal from the at least two speakers concurrently
speaker;
detecting the ~~speaker~~ audio signal from the at least two speakers at the
microphone; and
analyzing the detected signal for speaker presence.

10. (Currently Amended) A The method of claim 9, wherein ~~when more than one speaker is in the vehicle and connected to the audio generating device, further comprising the step of analyzing said detected signal includes selecting at least one speaker for determination of presence and determining an operable connection to the audio output component~~ at least two speakers.

11. (Currently Amended) A The method of claim 9, wherein ~~the transmitting step~~ comprises transmitting a predetermined modulated signal.

12. (Currently Amended) A The method of claim 9, wherein the detected signal is compared to the transmitted signal and a resulting waveform is analyzed for speaker presence and speaker performance.

13. (Currently Amended) A The method of claim 12, wherein the speaker performance is one of not present, present and performing below a first predetermined value or range, present and performing at a predetermined nominal value or range, and present and performing above a second predetermined value or range.

14. (Cancelled)

15. (Currently Amended) A method for determining the performance level of an audio speaker in a vehicle having an audio speaker connected to an audio

generating component that can receive audio broadcast ~~radio~~-signals, the method comprising the steps of:

placing a microphone in the vehicle;
transmitting a computer-controlled radio signal to the vehicle;
receiving the ~~radio~~-audio broadcast signal at the audio generating component;
converting the ~~radio~~-audio broadcast signal to an audio signal;
outputting the audio signal to at least two speakers;
outputting the audio signal from ~~the speaker~~ the at least two speakers concurrently and defining a concurrent audio output;
detecting the ~~speaker~~ concurrent audio signal output at the microphone and generating a microphone output signal; ~~and~~
inputting the microphone output signal and the radio broadcast signal into a digital signal processor;
producing a single waveform that represents the concurrent audio output;
and
analyzing the ~~detected signal~~ single waveform for at least one of speaker presence and speaker performance.

16. (New) The method of claim 15, wherein transmitting comprises transmitting a predetermined modulated signal.

17. (New) The method of claim 15, further comprising comparing the microphone output signal to the transmitted signal.

18. (New) The method of claim 15, wherein the speaker performance is one of not present, present and performing below a first predetermined value or range, present and performing at a predetermined nominal value or range, and present and performing above a second predetermined value or range.